



Well Name: State 23-16

Surface Location: State 23-16 Pad Sec.16-T3N-R68W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 5073.0
Northing 1325697.95 Easting 3136226.87 Latitude 40.226410 Longitude -105.012120 Slot
RKB - 13' WELL @ 5086.0ft (RKB - 13')

+N/-S
0.0

+E/-W
0.0

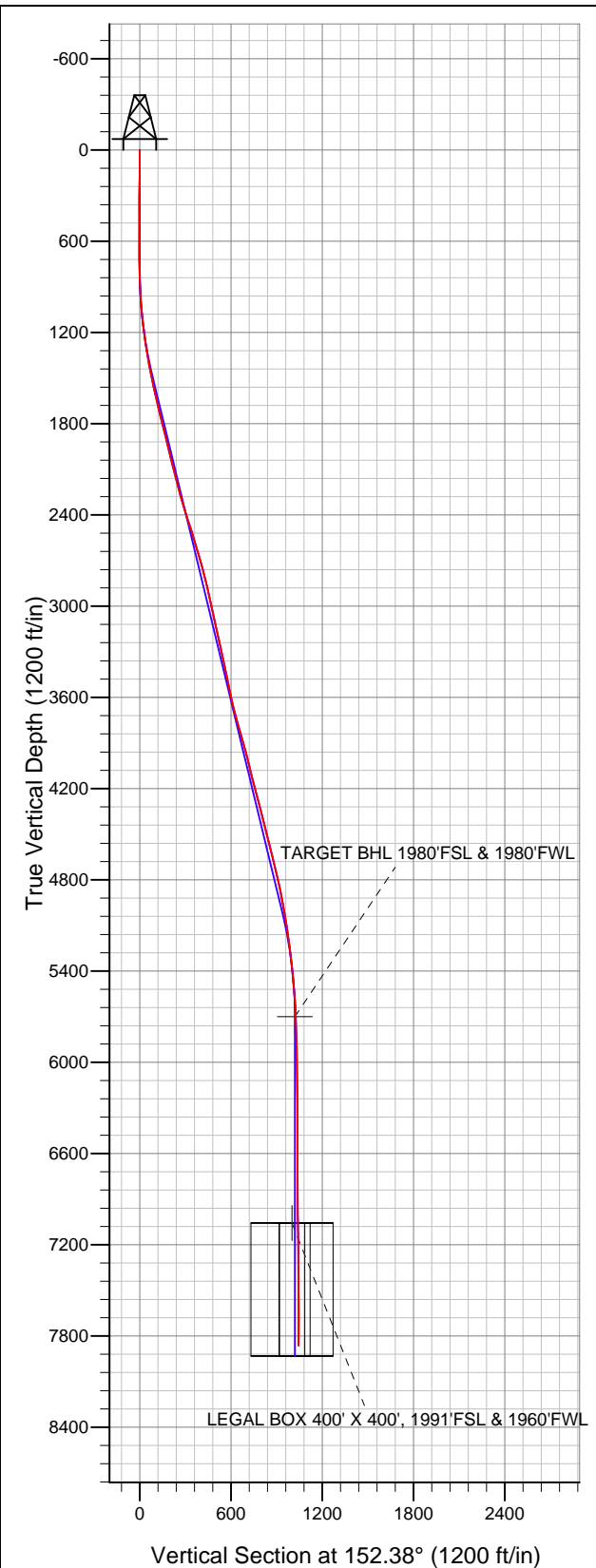
Northing
1325697.95
RKB - 13'

Easting
3136226.87
WELL @ 5086.0ft (RKB - 13')

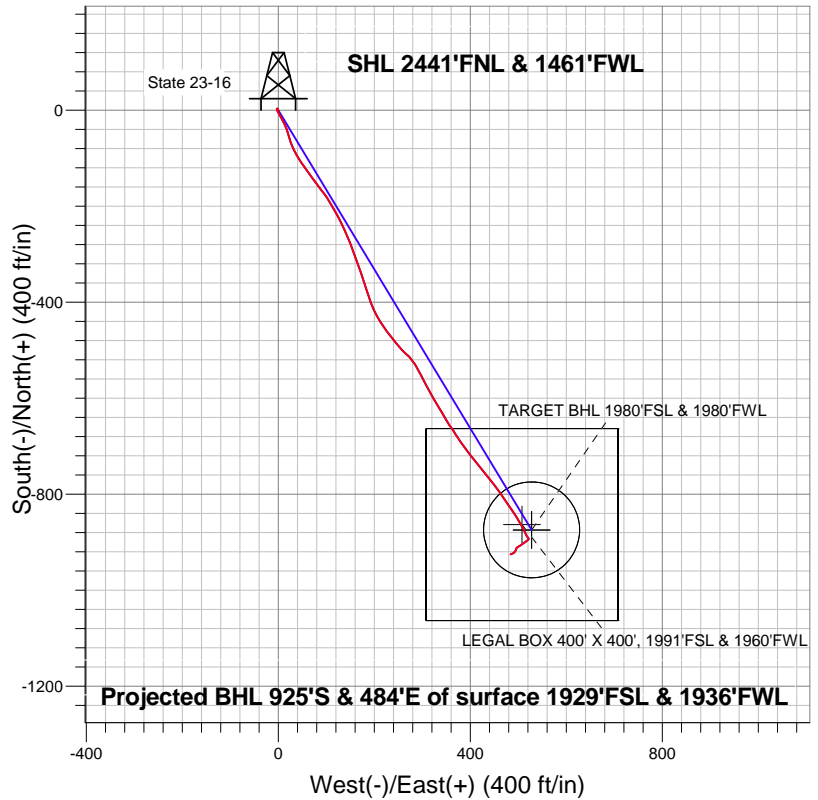
Latitude
40.226410

Longitude
-105.012120

Slot



EnCana Oil & Gas Weld County CO



LEGEND

- State 23-16, Wellbore #1, Plan #1 (11-27-12) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7984'MD & 7863'TVD @ 1042'VS
1.4 deg Inc 247.6 deg AZ

Project: SEC.16-T3N-R68W
Site: State 23-16 Pad Sec.16-T3N-R68W
Well: State 23-16
Plan: Wellbore #1



EnCana Oil & Gas Weld County CO

SEC.16-T3N-R68W

State 23-16 Pad Sec.16-T3N-R68W

State 23-16

Wellbore #1

Survey: Survey #1

Standard Survey Report

09 April, 2013

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
135.0	0.60	325.00	135.0	0.6	-0.4	-0.7	0.44	0.44	0.00	
195.0	0.90	338.90	195.0	1.3	-0.8	-1.5	0.58	0.50	23.17	
255.0	0.80	341.50	255.0	2.1	-1.1	-2.4	0.18	-0.17	4.33	
316.0	1.10	332.50	316.0	3.0	-1.5	-3.4	0.55	0.49	-14.75	
376.0	0.40	310.60	376.0	3.7	-1.9	-4.1	1.24	-1.17	-36.50	
436.0	0.40	208.10	436.0	3.6	-2.1	-4.2	1.04	0.00	-170.83	
496.0	0.40	234.10	496.0	3.3	-2.4	-4.1	0.30	0.00	43.33	
557.0	0.50	207.20	557.0	3.0	-2.7	-3.9	0.38	0.16	-44.10	
586.0	0.40	209.00	586.0	2.8	-2.8	-3.8	0.35	-0.34	6.21	
697.0	0.40	183.10	697.0	2.0	-3.0	-3.2	0.16	0.00	-23.33	
783.0	1.10	170.30	783.0	0.9	-2.9	-2.2	0.83	0.81	-14.88	
869.0	2.00	146.90	868.9	-1.1	-1.9	0.1	1.26	1.05	-27.21	

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well State 23-16
Project:	SEC.16-T3N-R68W	TVD Reference:	WELL @ 5086.0ft (RKB - 13')
Site:	State 23-16 Pad Sec.16-T3N-R68W	MD Reference:	WELL @ 5086.0ft (RKB - 13')
Well:	State 23-16	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
954.0	3.40	151.80	953.8	-4.6	0.1	4.1	1.67	1.65	5.76	
1,040.0	5.00	152.90	1,039.6	-10.2	3.0	10.4	1.86	1.86	1.28	
1,126.0	6.30	152.90	1,125.2	-17.7	6.8	18.9	1.51	1.51	0.00	
1,212.0	7.70	150.20	1,210.5	-26.9	11.8	29.4	1.67	1.63	-3.14	
1,297.0	8.60	160.80	1,294.7	-37.9	16.8	41.3	2.06	1.06	12.47	
1,383.0	10.20	164.10	1,379.5	-51.3	21.0	55.1	1.96	1.86	3.84	
1,469.0	11.60	160.60	1,464.0	-66.8	25.9	71.2	1.80	1.63	-4.07	
1,555.0	12.50	155.30	1,548.1	-83.4	32.7	89.0	1.66	1.05	-6.16	
1,640.0	13.20	147.60	1,631.0	-99.9	41.7	107.9	2.17	0.82	-9.06	
1,726.0	12.90	143.40	1,714.7	-115.9	52.7	127.1	1.16	-0.35	-4.88	
1,812.0	14.70	146.20	1,798.2	-132.7	64.5	147.5	2.23	2.09	3.26	
1,898.0	14.30	142.20	1,881.5	-150.1	77.1	168.8	1.25	-0.47	-4.65	
1,983.0	13.70	140.60	1,964.0	-166.2	89.9	189.0	0.84	-0.71	-1.88	
2,069.0	13.40	147.60	2,047.6	-182.5	101.7	208.9	1.94	-0.35	8.14	
2,155.0	14.00	149.90	2,131.2	-199.9	112.3	229.2	0.94	0.70	2.67	
2,240.0	14.80	151.50	2,213.5	-218.4	122.6	250.3	1.05	0.94	1.88	
2,326.0	16.90	154.30	2,296.2	-239.3	133.3	273.8	2.60	2.44	3.26	
2,412.0	17.50	157.80	2,378.4	-262.5	143.6	299.2	1.39	0.70	4.07	
2,498.0	17.80	157.50	2,460.3	-286.6	153.5	325.1	0.36	0.35	-0.35	
2,583.0	16.50	160.30	2,541.5	-310.0	162.5	350.0	1.81	-1.53	3.29	
2,669.0	16.40	162.70	2,624.0	-333.1	170.3	374.1	0.80	-0.12	2.79	
2,755.0	16.50	161.30	2,706.5	-356.2	177.8	398.1	0.48	0.12	-1.63	
2,841.0	15.60	161.10	2,789.1	-378.8	185.5	421.6	1.05	-1.05	-0.23	
2,926.0	13.50	159.20	2,871.4	-398.8	192.7	442.7	2.53	-2.47	-2.24	
3,012.0	12.60	156.60	2,955.2	-416.8	200.0	462.0	1.25	-1.05	-3.02	
3,098.0	11.90	151.70	3,039.2	-433.3	207.9	480.3	1.46	-0.81	-5.70	
3,183.0	11.80	143.70	3,122.4	-448.0	217.2	497.6	1.93	-0.12	-9.41	
3,269.0	12.90	143.20	3,206.4	-462.8	228.2	515.8	1.29	1.28	-0.58	
3,355.0	13.10	140.20	3,290.2	-477.9	240.1	534.8	0.82	0.23	-3.49	
3,441.0	12.30	142.90	3,374.1	-492.7	251.9	553.4	1.16	-0.93	3.14	
3,526.0	12.30	130.90	3,457.2	-505.9	264.2	570.7	3.00	0.00	-14.12	
3,612.0	11.50	140.20	3,541.4	-518.5	276.6	587.6	2.41	-0.93	10.81	
3,698.0	12.80	149.90	3,625.4	-533.3	286.9	605.5	2.81	1.51	11.28	
3,784.0	14.40	152.00	3,709.0	-551.0	296.7	625.7	1.95	1.86	2.44	
3,869.0	17.20	152.20	3,790.8	-571.4	307.5	648.9	3.29	3.29	0.24	
3,955.0	15.60	150.90	3,873.3	-592.8	319.1	673.2	1.91	-1.86	-1.51	
4,041.0	14.20	149.40	3,956.4	-612.0	330.1	695.2	1.69	-1.63	-1.74	
4,127.0	13.60	149.70	4,039.9	-629.8	340.5	715.9	0.70	-0.70	0.35	
4,212.0	14.20	148.80	4,122.4	-647.3	351.0	736.3	0.75	0.71	-1.06	
4,298.0	15.70	144.10	4,205.5	-665.8	363.3	758.3	2.24	1.74	-5.47	
4,384.0	15.20	146.40	4,288.4	-684.6	376.3	781.0	0.92	-0.58	2.67	
4,469.0	13.90	146.60	4,370.7	-702.4	388.1	802.3	1.53	-1.53	0.24	
4,555.0	14.00	140.40	4,454.1	-719.0	400.4	822.7	1.74	0.12	-7.21	
4,641.0	14.20	142.00	4,537.5	-735.4	413.6	843.3	0.51	0.23	1.86	
4,727.0	14.70	140.20	4,620.8	-752.1	427.0	864.3	0.78	0.58	-2.09	
4,812.0	14.50	141.60	4,703.1	-768.7	440.6	885.3	0.48	-0.24	1.65	
4,898.0	13.30	143.00	4,786.5	-785.0	453.2	905.7	1.45	-1.40	1.63	
4,984.0	11.20	145.10	4,870.6	-799.8	463.9	923.7	2.50	-2.44	2.44	
5,070.0	10.50	146.20	4,955.0	-813.1	473.1	939.8	0.85	-0.81	1.28	
5,155.0	9.70	144.80	5,038.7	-825.4	481.5	954.6	0.98	-0.94	-1.65	
5,241.0	8.60	146.40	5,123.6	-836.7	489.2	968.2	1.31	-1.28	1.86	
5,327.0	7.50	148.70	5,208.8	-846.8	495.7	980.2	1.33	-1.28	2.67	
5,413.0	7.10	147.60	5,294.1	-856.1	501.5	991.1	0.49	-0.47	-1.28	
5,498.0	5.70	152.00	5,378.6	-864.3	506.3	1,000.5	1.74	-1.65	5.18	

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5,584.0	5.50	152.20	5,464.1	-871.7	510.2	1,008.9	0.23	-0.23	0.23
5,670.0	4.10	154.30	5,549.8	-878.1	513.5	1,016.1	1.64	-1.63	2.44
5,755.0	3.60	158.70	5,634.6	-883.3	515.7	1,021.8	0.68	-0.59	5.18
5,820.1	2.75	149.04	5,699.7	-886.6	517.3	1,025.4	1.54	-1.31	-14.83
TARGET BHL 1980'FSL & 1980'FWL									
5,841.0	2.50	144.60	5,720.5	-887.4	517.8	1,026.3	1.54	-1.19	-21.27
5,927.0	1.80	145.50	5,806.5	-890.0	519.7	1,029.5	0.81	-0.81	1.05
6,013.0	1.10	138.10	5,892.4	-891.8	521.0	1,031.7	0.84	-0.81	-8.60
6,098.0	0.80	169.40	5,977.4	-893.0	521.6	1,033.0	0.69	-0.35	36.82
6,270.0	1.20	235.10	6,149.4	-895.2	520.4	1,034.4	0.66	0.23	38.20
6,441.0	1.90	230.40	6,320.3	-898.0	516.7	1,035.2	0.42	0.41	-2.75
6,784.0	2.60	236.70	6,663.1	-905.9	505.8	1,037.2	0.22	0.20	1.84
6,956.0	2.70	239.70	6,834.9	-910.1	499.1	1,037.7	0.10	0.06	1.74
7,127.0	0.80	174.00	7,005.8	-913.3	495.7	1,039.0	1.45	-1.11	-38.42
7,178.5	0.78	182.72	7,057.3	-914.0	495.7	1,039.7	0.24	-0.04	16.93
LEGAL BOX 400' X 400', 1991'FSL & 1960'FWL									
7,178.6	0.78	182.72	7,057.4	-914.0	495.7	1,039.7	0.00	0.00	0.00
TARGET CIRCLE 1980'FSL & 1980'FWL									
7,299.0	0.80	203.50	7,177.8	-915.6	495.4	1,040.9	0.24	0.02	17.26
7,470.0	1.10	206.30	7,348.8	-918.2	494.2	1,042.6	0.18	0.18	1.64
7,642.0	1.50	225.50	7,520.7	-921.2	491.8	1,044.3	0.34	0.23	11.16
7,813.0	1.50	248.20	7,691.7	-923.6	488.2	1,044.7	0.35	0.00	13.27
7,984.0	1.40	247.60	7,862.6	-925.2	484.1	1,044.3	0.06	-0.06	-0.35

Checked By: _____	Approved By: _____	Date: _____
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